Course Overview: 2018 Hydrologic Alteration under the Clean Water Act

Course Goals:

- Develop an understanding of the types of impacts caused by hydrologic alteration and the associated restoration options for those impacts.
- Develop a working knowledge of the authority that EPA has to address hydrologic alteration (both prevention and restoration) under the Clean Water Act.
- Develop the ability to analyze hydrologic alteration issues and understand how to apply Clean Water Act authority.
- Work through at least one hydrologic alteration project relating to a current Region 4 hydrologic alteration issue and development materials to share with Workgroup members.

Class components and expectations:

- Homework. Read through the materials in advance of each meeting and come prepared to work through the exercises for each section at the following meeting.
- Practicum. Participate in offered practical experiences, such as attending programmatic meetings relating to hydrologic alteration, field work or webinars.
- Project. Work on your selected project and develop final, reviewed materials to share with the Flow Work Group.
- In the News. Issues relating to hydrologic alteration are everywhere – sometimes as the main issue or sometimes as an underlying issue. Be on the lookout for articles, news stories or issues that come up and bring these to the meetings. Look for them both in the mainstream media, as well as in your technical/legal work. When we have time, let's talk through them during the meetings.

Course Structure:

Each class will include an hour to present the CWA program and how hydrologic alteration is addressed in that program. After each class, the staff will read through the most important guidance documents for each of the major program areas, including applicable statutory section, the regulations, policy and guidance. Working through actual examples, participants will analyze the case specific facts and come up with their interpretation on how the issue should be addressed under the CWA. At the following class, the class will discuss what they determined and it will be compared to the actual or projected outcomes on each issue.

This course is flexible. As this is the first time it is offered in this format, we can add meetings, subjects, issues or topics. We can expand or delve into topics in more depth if needed. The course is designed to be specific to the authority of the Clean Water Act. It will not go in-depth on the technical issues. For instance, you might get a cursory overview on the different methods to develop environmental flows but you will not leave the class being able to run the IHA or PHSIB model.

There will be six meetings over six months which will be two hours each and formatted as follows:

Date	First Part of Class - Review	Second Part of Class – New Info	Homework for Next Class
Jan 25	Intro to the Class/Course Overview and Expectations for the Participants (30 minutes)	• WQS basics, implicit vs. explicit WQS, example WQS for hydrologic alteration. • Legal authority to address flow/HA under the CWA. • Section 401 basics for HA.	Read the Flow Technical Paper. Read the WQS Handbook sections. Read the deleted Case Law appendix from the draft flow paper.
Feb 22	Follow-up Exercise:	What is a WQS as it relates to water quantity? 1. Go through the 4-part test 2. Water resource planning or setting standards? 3. Go through the Florida MFL example.	Read the following synopses and come to class prepared to discuss if they are a WQS: 1. Maine alewives 2. SC WWR 3. CA TUCP
Mar 15	Review the 3 cases and reveal what actually happened.	Monitoring and Assessment and Flow. Pollution v. Pollutants. Criteria v. Use. Category 4C	Read the 2016 IR Guidance. Review example specific waters. Are they impaired? Is the impairment hydrologic alteration? Is it pollution, pollutants or both? What category would it go in?
Apr 19	Review the guidance and how those waters were actually addressed.	Section 404/(b)(1) guidelines; NEPA; project impacts; conservation and efficiency.	Review the (b)(1) guidelines. Review Glades, Lancaster Reservoir. What comments can EPA put in to avoid, minimize or mitigate?
May 17	Review the projects and discuss what comments EPA did put in.	Section 402 and flow. GW/SW connections.	Review the videos on the hyporheic zone, read the WQS handbook on 7Q10. Come prepared to discuss what 7Q10 is – and isn't. More…
Jun 21	Review 7Q10. Review impacts to GW….	Projects, In the news…Wrap up?	